

RAW SEQUENCE LISTING ERROR REPORT

BIOTECHNOLOGY
SYSTEMS
BRANCH

#6

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/544,045

Source: 1643

Date Processed by STIC: 8-25-00

REC'D
SEP 06 2000
TECH CENTER 1600/2800

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY.

FOR FURTHER INFORMATION, PLEASE TELEPHONE MARK SPENCER,
703-308-4212.

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE SEE BELOW

Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 - 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST 25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO).

Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be downloaded from the USPTO website at the following address:

<http://www.uspto.gov/web/offices/pac/checker>

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/544,045

DATE: 08/25/2000
TIME: 12:19:45

Input Set : A:\Omrf1781.app
Output Set: N:\CRF3\08252000\I544045.raw

Does Not Comply
Corrected Diskette Needed

3 <110> APPLICANT: Rufer, Andreas Walter
 4 Sauer, Brian Lee
 6 <120> TITLE OF INVENTION: Method for Selecting Recombinase Variants with Altered
 7 Specificity
 9 <130> FILE REFERENCE: OMRF 178
 11 <140> CURRENT APPLICATION NUMBER: 09/544,045
 12 <141> CURRENT FILING DATE: 2000-04-06
 14 <150> PRIOR APPLICATION NUMBER: 60/127,977
 15 <151> PRIOR FILING DATE: 1999-04-09
 17 <160> NUMBER OF SEQ ID NOS: 68
 19 <170> SOFTWARE: PatentIn Ver. 2.1
 21 <210> SEQ ID NO: 1
 22 <211> LENGTH: 343
 23 <212> TYPE: PRT
 24 <213> ORGANISM: Artificial Sequence
 26 <220> FEATURE:
 27 <223> OTHER INFORMATION: Description of Artificial Sequence: Cre
 29 <400> SEQUENCE: 1
 30 Met Ser Asn Leu Leu Thr Val His Gln Asn Leu Pro Ala Leu Pro Val
 31 1 5 10 15
 33 Asp Ala Thr Ser Asp Glu Val Arg Lys Asn Leu Met Asp Met Phe Arg
 34 20 25 30
 36 Asp Arg Gln Ala Phe Ser Glu His Thr Trp Lys Met Leu Leu Ser Val
 37 35 40 45
 39 Cys Arg Ser Trp Ala Ala Trp Cys Lys Leu Asn Asn Arg Lys Trp Phe
 40 50 55 60
 42 Pro Ala Glu Pro Glu Asp Val Arg Asp Tyr Leu Tyr Leu Gln Ala
 43 65 70 75 80
 45 Arg Gly Leu Ala Val Lys Thr Ile Gln Gln His Leu Gly Gln Leu Asn
 46 85 90 95
 48 Met Leu His Arg Arg Ser Gly Leu Pro Arg Pro Ser Asp Ser Asn Ala
 49 100 105 110
 51 Val Ser Leu Val Met Arg Arg Ile Arg Lys Glu Asn Val Asp Ala Gly
 52 115 120 125
 54 Glu Arg Ala Lys Gln Ala Leu Ala Phe Glu Arg Thr Asp Phe Asp Gln
 55 130 135 140
 57 Val Arg Ser Leu Met Glu Asn Ser Asp Arg Cys Gln Asp Ile Arg Asn
 58 145 150 155 160
 60 Leu Ala Phe Leu Gly Ile Ala Tyr Asn Thr Leu Leu Arg Ile Ala Glu
 61 165 170 175
 63 Ile Ala Arg Ile Arg Val Lys Asp Ile Ser Arg Thr Asp Gly Gly Arg
 64 180 185 190
 66 Met Leu Ile His Ile Gly Arg Thr Lys Thr Leu Val Ser Thr Ala Gly
 67 195 200 205
 69 Val Glu Lys Ala Leu Ser Leu Gly Val Thr Lys Leu Val Glu Arg Trp
 70 210 215 220
 72 Ile Ser Val Ser Gly Val Ala Asp Asp Pro Asn Asn Tyr Leu Phe Cys

5,6
See R

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/544,045

DATE: 08/25/2000
 TIME: 12:19:46

Input Set : A:\Omrf1781.app
 Output Set: N:\CRF3\08252000\I544045.raw

```

73 225          230          235          240
75 Arg Val Arg Lys Asn Gly Val Ala Ala Pro Ser Ala Thr Ser Gln Leu
76          245          250          255
78 Ser Thr Arg Ala Leu Glu Gly Ile Phe Glu Ala Thr His Arg Leu Ile
79          260          265          270
81 Tyr Gly Ala Lys Asp Asp Ser Gly Gln Arg Tyr Leu Ala Trp Ser Gly
82          275          280          285
84 His Ser Ala Arg Val Gly Ala Ala Arg Asp Met Ala Arg Ala Gly Val
85          290          295          300
87 Ser Ile Pro Glu Ile Met Gln Ala Gly Gly Trp Thr Asn Val Asn Ile
88 305          310          315          320
90 Val Met Asn Tyr Ile Arg Asn Leu Asp Ser Glu Thr Gly Ala Met Val
91          325          330          335
93 Arg Leu Leu Glu Asp Gly Asp
94          340
97 <210> SEQ ID NO: 2
98 <211> LENGTH: 13
99 <212> TYPE: DNA
100 <213> ORGANISM: Artificial Sequence
102 <220> FEATURE:
103 <223> OTHER INFORMATION: Description of Artificial Sequence: Inverted
104 Repeat Sequence
106 <220> FEATURE:
107 <223> OTHER INFORMATION: N at sites 1-3 and 6-7 is either A, T, G or C
109 <400> SEQUENCE: 2
W--> 110 nnnacnnccgt ata          13
113 <210> SEQ ID NO: 3
114 <211> LENGTH: 34
115 <212> TYPE: DNA
116 <213> ORGANISM: Artificial Sequence
118 <220> FEATURE:
119 <223> OTHER INFORMATION: Description of Artificial Sequence: variant lox
120 sites
122 <220> FEATURE:
123 <223> OTHER INFORMATION: N at sites 1-3, 6-7, 14-21, 28-29, and 32-34 is
124 either A, G, C, or T
126 <400> SEQUENCE: 3
W--> 127 nnnacnnccgt ataaaaaaaaaaaaatacgng tnnn          34
130 <210> SEQ ID NO: 4
131 <211> LENGTH: 33
132 <212> TYPE: DNA
133 <213> ORGANISM: Artificial Sequence
135 <220> FEATURE:
136 <223> OTHER INFORMATION: Description of Artificial Sequence: variant lox
137 sites
139 <400> SEQUENCE: 4
140 gatacaacgt atataccctt ctatacgttg tat          33
143 <210> SEQ ID NO: 5
144 <211> LENGTH: 34

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/544,045

DATE: 08/25/2000
TIME: 12:19:46

Input Set : A:\Omrf1781.app
Output Set: N:\CRF3\08252000\I544045.raw

145 <212> TYPE: DNA
146 <213> ORGANISM: Artificial Sequence
148 <220> FEATURE:
149 <223> OTHER INFORMATION: Description of Artificial Sequence: Specific and
150 Non-specific sequences for Cre recombinase
152 <220> FEATURE:
153 <223> OTHER INFORMATION: N at sites 1-3, 14-21, or 32-34 is either A, G, C,
154 or T
156 <400> SEQUENCE: 5
W--> 157 nnnacttcgt atannnnnnn ntatacgaag tnnn 34
160 <210> SEQ ID NO: 6
161 <211> LENGTH: 8
162 <212> TYPE: DNA
163 <213> ORGANISM: Artificial Sequence
165 <220> FEATURE:
166 <223> OTHER INFORMATION: Description of Artificial Sequence:
167 Oligonucleotide
169 <400> SEQUENCE: 6
170 atrvbygc 8
173 <210> SEQ ID NO: 7
174 <211> LENGTH: 34
175 <212> TYPE: DNA
176 <213> ORGANISM: Artificial Sequence
178 <220> FEATURE:
179 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
181 <400> SEQUENCE: 7
182 ataacctcgtaataatgtatg ctatacgaag ttat 34
185 <210> SEQ ID NO: 8
186 <211> LENGTH: 29
187 <212> TYPE: DNA
188 <213> ORGANISM: Artificial Sequence
190 <220> FEATURE:
191 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
193 <400> SEQUENCE: 8
194 aaataatcta gactgagtgt gaaatgtcc 29
197 <210> SEQ ID NO: 9
198 <211> LENGTH: 31
199 <212> TYPE: DNA
200 <213> ORGANISM: Artificial Sequence
202 <220> FEATURE:
203 <223> OTHER INFORMATION: Description of Artificial Sequence: primer
205 <400> SEQUENCE: 9
206 atatataaagg ttatcattta cgcgtaatg g 31
209 <210> SEQ ID NO: 10
210 <211> LENGTH: 33
211 <212> TYPE: DNA
212 <213> ORGANISM: Artificial Sequence
214 <220> FEATURE:
215 <223> OTHER INFORMATION: Description of Artificial Sequence: primer

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/544,045 DATE: 08/25/2000
TIME: 12:19:46

Input Set : A:\Omrf1781.app
Output Set: N:\CRF3\08252000\I544045.raw

217 <400> SEQUENCE: 10
218 ataaggggcc gctgagcttg gctgtttgg cggttgg 33
221 <210> SEQ ID NO: 11
222 <211> LENGTH: 36
223 <212> TYPE: DNA
224 <213> ORGANISM: Artificial Sequence
226 <220> FEATURE:
227 <223> OTHER INFORMATION: Description of Artificial Sequence: primer
229 <400> SEQUENCE: 11
230 gccgtctcgaa gagagtgtt agaaaacgcaa aaaggc 36
233 <210> SEQ ID NO: 12
234 <211> LENGTH: 30
235 <212> TYPE: DNA
236 <213> ORGANISM: Artificial Sequence
238 <220> FEATURE:
239 <223> OTHER INFORMATION: Description of Artificial Sequence: primer
241 <400> SEQUENCE: 12
242 gtcaagcttag cttagcagggtt tcccgactgg 30
245 <210> SEQ ID NO: 13
246 <211> LENGTH: 36
247 <212> TYPE: DNA
248 <213> ORGANISM: Artificial Sequence
250 <220> FEATURE:
251 <223> OTHER INFORMATION: Description of Artificial Sequence: primer
253 <400> SEQUENCE: 13
254 acattgcggccgc cgcagatctc ctcttagatgc gacctg 36
257 <210> SEQ ID NO: 14
258 <211> LENGTH: 20
259 <212> TYPE: DNA
260 <213> ORGANISM: Artificial Sequence
262 <220> FEATURE:
263 <223> OTHER INFORMATION: Description of Artificial Sequence: primer
265 <400> SEQUENCE: 14
266 ttggggcttag cgaattcgag 20
269 <210> SEQ ID NO: 15
270 <211> LENGTH: 20
271 <212> TYPE: DNA
272 <213> ORGANISM: Artificial Sequence
274 <220> FEATURE:
275 <223> OTHER INFORMATION: Description of Artificial Sequence: primer
277 <400> SEQUENCE: 15
278 ttggggccag ctaaacatgc 20
281 <210> SEQ ID NO: 16
282 <211> LENGTH: 20
283 <212> TYPE: DNA
284 <213> ORGANISM: Artificial Sequence
286 <220> FEATURE:
287 <223> OTHER INFORMATION: Description of Artificial Sequence: primer
289 <400> SEQUENCE: 16

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/544,045

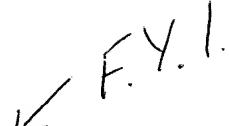
DATE: 08/25/2000
 TIME: 12:19:46

Input Set : A:\Omrf1781.app
 Output Set: N:\CRF3\08252000\I544045.raw

```

290 cgggtggaga atgttaatcc          20
293 <210> SEQ ID NO: 17
294 <211> LENGTH: 18
295 <212> TYPE: DNA
296 <213> ORGANISM: Artificial Sequence
298 <220> FEATURE:
299 <223> OTHER INFORMATION: Description of Artificial Sequence: primer
301 <400> SEQUENCE: 17
302 ggacacagtgc cccgtgtc          18
305 <210> SEQ ID NO: 18
306 <211> LENGTH: 21
307 <212> TYPE: DNA
308 <213> ORGANISM: Artificial Sequence
310 <220> FEATURE:
311 <223> OTHER INFORMATION: Description of Artificial Sequence: primer
313 <400> SEQUENCE: 18
314 tctcggttct gatttaatct g          21
317 <210> SEQ ID NO: 19
318 <211> LENGTH: 18
319 <212> TYPE: DNA
320 <213> ORGANISM: Artificial Sequence
322 <220> FEATURE:
323 <223> OTHER INFORMATION: Description of Artificial Sequence: primer
325 <400> SEQUENCE: 19
326 ccaggccagg tatctctg          18
329 <210> SEQ ID NO: 20
330 <211> LENGTH: 22
331 <212> TYPE: DNA
332 <213> ORGANISM: Artificial Sequence
334 <220> FEATURE:
335 <223> OTHER INFORMATION: Description of Artificial Sequence: primer
337 <400> SEQUENCE: 20
338 gtacgtgaga tatttttaac cc          22
341 <210> SEQ ID NO: 21
342 <211> LENGTH: 22
343 <212> TYPE: DNA
344 <213> ORGANISM: Artificial Sequence
346 <220> FEATURE:
347 <223> OTHER INFORMATION: Description of Artificial Sequence: primer
349 <400> SEQUENCE: 21
350 ttgttgtata gttttactg cc          22
353 <210> SEQ ID NO: 22
354 <211> LENGTH: 45
355 <212> TYPE: DNA
356 <213> ORGANISM: Artificial Sequence
358 <220> FEATURE:
359 <223> OTHER INFORMATION: Description of Artificial Sequence: primer
361 <400> SEQUENCE: 22
362 gctatcaact cgcccccctgg gagggatttt tgaagcaact catcg          45

```

F.Y.I.


Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

09/544, 045

P.6

<210> 67 Seg #67
<211> 13
<212> DNA
<213> Artificial Sequence

<400> 67
gaagttacta ttc

13

Missing <220> <223> features to explain
artificial sequence. See #12 on Error Summary Sheet

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/544,045

DATE: 08/25/2000

TIME: 12:19:47

Input Set : A:\Omrf1781.app

Output Set: N:\CRF3\08252000\I544045.raw

L:110 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:2
L:110 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:2
L:110 M:340 W: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:2
L:127 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:3
L:127 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:3
L:127 M:340 W: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:3
L:157 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:5
L:157 M:340 W: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:5
L:413 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:26
L:413 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:26
L:413 M:340 W: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:26
L:428 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:27
L:428 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:27
L:428 M:340 W: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:27
L:1118 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41
L:1438 M:258 W: Mandatory Feature missing, <220> FEATURE:
L:1438 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION: